

ARCHITECTURE FOR SIGNAL DISTRIBUTION IN WIRELESS DATA NETWORKS

ABSTRACT OF THE DISCLOSURE

A simple and low cost architecture for coupling wireless metropolitan area
5 network and mobile broadband wireless network signals between geographically
distributed access points and centrally located internetworking devices. A cable access
point (CAP) is associated with each respective microcell. Each CAP includes a remote
bridge to convert such signals to a convenient transport format depending upon the
available cabling. For example, if the available cabling is a cable television (CATV)
10 plant, the transport signals are first converted to a T1/T3 format and up-converted to a
carrier frequency suitable for the CATV plant. Alternatively, the transport signals may
be converted to cable modem signals. If the available cabling is twisted pair telephone
type wiring, the remote bridge converts the transport signals to a suitable Digital
Subscriber Line (xDSL) format. The transport signals are collected at a central
15 distribution or head end access point (HAP). At this location, a remote bridge then
converts the signals from the up-converted T1 format or the xDSL format, back to the
Ethernet local area network format. These Ethernet signals are then suitable for
coupling to a local area network hub or other internetworking equipment such as
switches, bridges, routers, and gateways.